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Collectors will find some useful hints regarding field work. We quote the following passage : —

"Mr. Meske's field collections are made with unusual care. A gauze net is used by him, of so delicate a texture that the captured insect, in its efforts to escape, may brush against its sides without the loss of any of its cilia. As quickly as possible it is withdrawn from the net in a wide-mouthed bottle, and speedily quieted by a few drops of chloroform, poured on some cotton contained in a glass tube passing through the cork. When the insect is dead, or nearly so, it is carefully turned out on the palm of the left hand, and in that position pinned, without taking it as is usually done between the fingers.

I have found a lump of cyanide of potassa, secured by a piece of gauze to the stopple of a bottle (a French mustard jar with its hollow screw stopple forms an excellent collecting bottle), to be more convenient for use than chloroform, and nearly as prompt in its effects."

We are quite well satisfied with the use of cyanide of potassa.

A HAND-BOOK OF BRITISH FUNGI.*—The increasing interest in the study of the Fungi, especially their microscopic forms, leads to the frequent inquiry for some compact and trustworthy manual of this somewhat puzzling class of plants. Mr. Cooke is well known as an enthusiastic and experienced author on the subject, and this treatise is the best which the English or American student can employ to assist him in his home researches. References to United States habitats are largely given, and the measurements and descriptions by Greville, Fries, Berkeley, Smith, etc., added to Mr. Cooke's own observations on almost every species. In classification, the author has endeavored to simplify the arrangement, as much as the great influx of new discoveries would permit. To have succeeded, however imperfectly in this, is to have earned the gratitude of every student of the Fungi—for no branch of botany has been in greater confusion and embarrassment of nomenclature. The extremely plastic character of fungus life is perhaps an excuse for this, but Mr. Cooke seems to have taken hold of the difficulty with courage and to have worked with decided views of his own, which it is to be regretted that the proposed limits of the volumes left him no room to explain at length. The references are very full, much more so than the size of the work would promise. The spore measurements, a delicate but necessary matter, have been well done. It may be added, that since the appearance of this work Mr. Cooke, in company with Mr. C. H. Peck of Albany, New York, has been engaged in the study of the Erysiphei of the United States, and has already published several papers which might well accompany the hand-book to the study table of any American botanist.—E. C. B.

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* Hand-book of British Fungi, with full Description of all the Species, and Illustrations of the Genera. By M. C. Cooke, M.A., London and New York: Macmillan and Co. 8vo, 2 vols., pp. 982. Price $12.

BOTANY.

Second Growths in Trees.—A matter which has not received the attention which perhaps it deserves is the growth of trees twice or more during the same season. Some, like the horse chestnut, make but a single growth, when the upper leaves are reduced to perfect bud scales; and although there is, probably, a growth of the embryonic parts of the next year's leaves and flowers beneath these scales for sometime afterwards, to all appearance growth ceases for the season. Others, as in the Norway and sycamore maples, gradually decrease in the size of their leaves as midsummer approaches; the internodes occupy less and less space, but before finally taking on the condition of a terminal bud a new growth commences, the leaves grow larger, and before the final fall resting comes, they have nearly reached the size of those of the early summer time. The English oak almost always makes two of these growths, and sometimes three, and this is also the case with *Pinus mitis*, *P. Banksiana*, *P. inops*, *P. pungens*, and sometimes but not so frequently in *P. rigida* and *P. Tœda.* I think it likely that in most trees which make a continuous growth through the summer season there is more or less of this growth rest, and successive reaction. In the apple tree, and the Carolina and cottonwood poplars, this approach to rest about midsummer is very plainly seen by a shortening of the internodes; after this they again widen, and in the case of these two, the leaves of the second growth are much larger and more vigorous in every respect than those of the first cycle or wave of growth. I have often set myself to the study of the causes of this varying growth force, without feeling satisfied that I could comprehend them clearly. In some way it would seem to be dependent on the powers of nutrition, as in the apple and many other trees it is only the most vigorous shoots which make a re-